

**Bombay Hook**  
**National Wildlife Refuge**  
2591 Whitehall Neck Road  
Smyrna, DE 19977  
Office: 302/653 9345  
Visitor Center: 302/653 6872  
Fax: 302/653 0684  
Email: [R5RW\\_BHNWR@mail.fws.gov](mailto:R5RW_BHNWR@mail.fws.gov)  
Web site: [bombayhook.fws.gov](http://bombayhook.fws.gov)

**Federal Relay Service**  
**for the deaf and hard-of-hearing**  
**1 800/877 8339**

**This brochure is also available upon  
request in a large print version.**

**U.S. Fish & Wildlife Service**  
**1 800/344 WILD**

**August 2004**



**U.S. Fish & Wildlife Service**

# **Bombay Hook**

## *National Wildlife Refuge*



***Bombay Hook  
National Wildlife  
Refuge is about 16,000  
acres, the terrain is  
flat — less than ten  
feet above sea level.  
Tidal salt marsh  
composes four-fifths of  
the refuge, one of the  
largest expanses of  
nearly unaltered tidal  
salt marsh in the mid-  
Atlantic region. The  
refuge also has 1,100  
acres of impounded  
fresh water pools and  
swamps, and 1,800  
acres of uplands with  
agricultural crops,  
grasslands, seasonal  
moist soil areas and***

#### **Introduction**



*This blue goose,  
designed by J. N.  
“Ding” Darling,  
has become the  
symbol of the  
National Wildlife  
Refuge System.*

Bombay Hook was established in 1937 as a link in the chain of refuges extending from Canada to the Gulf of Mexico. It is primarily a refuge and breeding ground for migrating birds and other wildlife. The value and importance of Bombay Hook for migratory bird protection and conservation has increased through the years, primarily due to the management of the refuge and the high quality habitat loss elsewhere in the Atlantic Flyway.

*Cover photo:  
Great blue heron by  
Earl West, Jr.  
background photo:  
Jamie Richie*



## History

The recorded history of Bombay Hook begins in 1679 with the sale of marshland from Mechacksett, Chief of the Kahansink Indians, to Peter Bayard of New York. Known to the Native Americans as Canaresse, meaning “shaggy bushes” or thicket, the name “Bombay Hook” evolved from the Dutch name “Bompies Hoeck” meaning “little-tree point.” Dutch settlers cut salt hay from the marsh, trapped muskrats and hunted waterfowl. The tidal streams that interlace the marsh were plied for fish, crabs and oysters.

From 1938 until 1942, a Company of the Civilian Conservation Corps, made up entirely of African-Americans, was engaged in construction projects to establish a refuge for migratory waterfowl at Bombay Hook. They completed a dike and water control structures creating Raymond Pool, built part of the dike to enclose Shearneck Pool and built a causeway at Finis Pool. They cleared timber and undergrowth from Shearneck and Finis Swamps. The CCC built a headquarters building, two houses, a boathouse, and 90-foot observation tower. They also built and maintained roads, planted more than fifty thousand seedling trees, and assisted in a mosquito control research project.

With the onset of World War II, the Army Air Corps, based at Dover, used parts of the refuge for training with air-to-ground rockets.

The Allee House at Bombay Hook stands today, just as it did in the eighteenth century, overlooking the fields and marshes of Kent County. It is one of the most handsome



*The Allee House*

## Refuge Management and Objectives

examples of an early brick farmhouse in Delaware. The restoration and furnishing of the Allee House were completed in 1966. In 1971 it was placed on the National Register of Historic Places as an important example of the plantation houses of eighteenth century Delaware.

Refuge management programs are primarily aimed at developing and protecting habitat for waterfowl and other migratory birds, including the threatened bald eagle. The refuge is a focal point for waterfowl migrating between their northern breeding grounds and southern wintering areas. Large numbers of ducks and geese arrive each fall to spend the winter or to stopover as they head south. The Delaware Bay is the second largest staging area for spring migratory shorebirds in North America.

Water levels in refuge impoundments are manipulated to produce desirable emergent and underwater plants for waterfowl. When pools are drawn down, large populations of shore and wading birds feed on the mudflats. Upland agricultural crops are grown on about 1,100 acres to provide additional food for waterfowl and other migratory birds.

Tidal salt marsh is some of the most

valuable wildlife habitat in Delaware. Large portions of the refuge have been maintained in a near pristine state. The marsh, with its intersecting tidal streams and

rivers, provides excellent natural habitat for birds and mammals and serves as a nursery for marine organisms, and provides sporting or commercial value.



*M. Anthony*

*Wood Duck*



*Hollingsworth*

*Pintail Duck*



Heading North on Route 13 from Dover, take Route 42 East to Route 9, Leipsic. Proceed North on Route 9 for 2 miles and take a right on Whitehall Neck Road, which ends at the refuge entrance.

Heading South on Route 13 from Smyrna, take Road 12 East (Smyrna-Leipsic Rd.) until it merges with Route 9 (5 miles), and take a left on Whitehall Neck Road after 1/4 mile.

Heading North or South on toll road Route 1 take exit 114 (Smyrna-South exit). At the end of the ramp turn right at traffic light onto Route 13 North. Turn right at next light onto Road 12 East (Smyrna-Leipsic Road). This road merges with Route 9 South (5 miles). Turn left onto Whitehall Neck Road which ends at refuge entrance.

## Wildlife Calendar

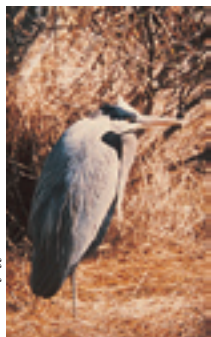
Though wildlife can be seen year round at Bombay Hook, fall and spring offer the best opportunity for observing peak concentrations of migratory birds.

October and November are typically the most interesting since waterfowl populations are at their peak. More than 150,000 ducks and geese use the refuge at this time.

Spring is another great season to visit the refuge. March has another peak for waterfowl populations as they travel to their northern breeding grounds. April brings early shorebird migrants from South America and the emergence of reptiles and amphibians from winter hibernation.

Shorebirds are at their highest concentration during May and there are excellent viewing opportunities along the driving route. They come to Delaware Bay primarily due to the arrival of horseshoe crabs that are laying eggs along the shore. These eggs provide the shorebirds with energy needed to complete their northward migration. They also feed on invertebrates in the tidal marshes and exposed mudflats, providing opportunities to view thousands of shorebirds. May is also the peak time for warblers, with the five nature trails offering great birding opportunities.

Wading birds such as herons, egrets and glossy ibis, reach their peak numbers during the summer months. Mammals can be seen year round, particularly in the early morning and evening hours. These include white-tailed deer, beaver, muskrat, red fox, river otter, woodchuck and opossum.



Great Blue Heron



Whitetail deer

## Biodiversity (Biological Diversity)



Frog



Painted Turtles

Biodiversity is the variety and interdependence of plants and animals within their preferred habitats. All habitats are needed to sustain diversity. The greater variety of habitats, the greater variety of plants and animals. All classes of animals are important—from the vertebrates that include five classes of animals with backbones (mammals, birds, reptiles, amphibians, and fish), to the invertebrates, animals without backbones (insects, shell fish, worms, centipedes, millipedes, etc.). Bombay Hook is managed to provide a diverse group of habitats: freshwater, brackish and salt marsh, bay, grassland, farm field, and forest.



Horseshoe Crab



Semipalmated sandpiper and Ruddy Turnstone



## Public Use

The public is welcome to visit the refuge for wildlife observation, nature study and photography year-round during daylight.

Visitor facilities include a visitor center, auto tour route, observation towers and nature trails. Bear Swamp Trail and the visitor center are accessible to visitors with disabilities. A cassette tape interpreting the auto tour is available.



Marian Johnson-Pohlman

*Bird Watchers*

The visitor center is typically open Monday-Friday from 8:00 a.m. to 4:00 p.m. and on spring and fall weekends, from 9:00 a.m. to 5:00 p.m. It is closed on summer and winter weekends. If requested in advance, tours, habitat studies, nature walks and audiovisual programs

are available. Volunteer, teacher and leader workshops are offered in the spring and fall. General public programs are offered during special event days such as Migratory Bird Day, National Wildlife Refuge Week and our Spring and Fall Festivals. Volunteers staff the visitor center, conduct environmental education programs, lead activities during special events, assist with wildlife surveys and provide trail maintenance.

A 12-mile round-trip auto tour route and five nature trails (ranging from 1/4 to 1 mile in length) provide opportunities to observe and photograph wildlife. Three of the trails also have 30-foot observation towers. The historic Allee House is open for tours on spring and fall weekends from 1:00 p.m. to 4:00 p.m.

Public hunting, primarily for waterfowl and deer, is permitted under special regulations on portions of the refuge during the Delaware state season.

## Entrance Fee Options



Ruth Pfeffer

*Bald eagle*

To help purchase more wildlife habitat and to sustain refuge operations, Congress passed the Emergency Wetlands Resources Act in 1986. The law authorized the Fish and Wildlife Service to charge entrance fees at national wildlife refuges such as Bombay Hook.

Visitors may pay the daily fee or purchase one of several annual passes – the Federal Duck Stamp, Bombay Hook Pass or Golden Eagle Passport. All are sold at the refuge. Anyone 62 years or older may purchase the lifetime Golden Age Pass for \$10. Blind and permanently disabled persons are eligible for a free Golden Access Pass. All passes will admit you and your passengers or family. Children under 16 are admitted free. Educational and scientific groups may enter free with prior notice. Refuge staff will be happy to issue a pass and answer any questions.

## Bombay Hook National Wildlife Refuge

Bombay Hook National Wildlife Refuge is one of more than 540 refuges in the National Wildlife Refuge System administered by the U.S. Fish and Wildlife Service. The National Wildlife Refuge System is a network of lands and waters managed specifically for the protection of wildlife and wildlife habitat and represents the most comprehensive wildlife management program in the world. Units of the system stretch across the United States from northern Alaska to the Florida Keys and include small islands in the Caribbean and South Pacific. The character of the refuges is as diverse as the nation itself.

The Service also manages National Fish Hatcheries and provides Federal leadership in habitat protection, fish and wildlife research, technical assistance and the conservation and protection of migratory birds, certain marine mammals and threatened and endangered species.